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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,423	01/11/2006	Robert Fifield	GB 030115	8968
65913	7550	07/18/2008	EXAMINER	
NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			AHMED, ENAM	
			ART UNIT	PAPER NUMBER
			2112	
			NOTIFICATION DATE	DELIVERY MODE
			07/18/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary

Application No.

10/564,423

Applicant(s)

FIFIELD ET AL.

Examiner

ENAM AHMED

Art Unit

2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Non – Final

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/30/08 has been entered.

Response to applicant's arguments

2. Applicant's arguments with respect to claims 1-6, 9 and 17 have been considered but are moot in view of the new ground(s) of rejection.

35 U.S.C. 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szymanski (U.S. Patent No. 6,851,086) in view of Alapuranen (U.S. Pub. No. 2004/0010736).

With respect to claim 1, the Szymanski reference teaches issuing a NACK signal over the network, by the receiver (20), in the event that the data packet is not properly received (column 27, lines 14-19). The Szymanski reference does not teach transmitting, by the transmitter, a data packet onto multiple paths of a network between the transmitter and the receiver at least one of the paths including at least one of the repeater transceiver node; forwarding, by the at least one repeater node, the data packet to the receiver and storing, by the at least one repeater node, a copy of the forwarded data packet and initiating retransmission of the data packet onto the network by the at least one repeater node responsive to receipt of the NACK signal by the at least one repeater node, the at least one repeater node initiating retransmission of the data packet by transmitting the stored copy of the forwarded data packet to the receiver. The Alapuranen reference teaches transmitting, by the transmitter, a data packet onto multiple paths of a network between the transmitter and the receiver at least one of the paths including at least one of the repeater transceiver node ([0022 -0023]); forwarding, by the at least one repeater node, the data packet to the receiver and storing, by the at least one repeater node, a copy of the forwarded data packet ([0022] and [0025]); and initiating retransmission of the data packet onto the network by the at least one repeater node responsive to receipt of the NACK signal by the at least one repeater node, the at least one repeater node initiating retransmission of the data packet by transmitting the stored copy of the forwarded data packet to the receiver ([0030] and [0038]). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention

was made to have combined the references Szymanski and Alapuranen to incorporate transmitting, by the transmitter, a data packet onto multiple paths of a network between the transmitter and the receiver at least one of the paths including at least one of the repeater transceiver node; forwarding, by the at least one repeater node, the data packet to the receiver and storing, by the at least one repeater node, a copy of the forwarded data packet and initiating retransmission of the data packet onto the network by the at least one repeater node responsive to receipt of the NACK signal by the at least one repeater node, the at least one repeater node initiating retransmission of the data packet by transmitting the stored copy of the forwarded data packet to the receiver into the claimed invention. The motivation for transmitting, by the transmitter, a data packet onto multiple paths of a network between the transmitter and the receiver at least one of the paths including at least one of the repeater transceiver node; forwarding, by the at least one repeater node, the data packet to the receiver and storing, by the at least one repeater node, a copy of the forwarded data packet and initiating retransmission of the data packet onto the network by the at least one repeater node responsive to receipt of the NACK signal by the at least one repeater node, the at least one repeater node initiating retransmission of the data packet by transmitting the stored copy of the forwarded data packet to the receiver is to minimize latency ([0031] – Alapuranen reference).

With respect to claim 2, all of the limitations of claim 1 have been addressed. The Szymanski reference does not teach in which the retransmitting step is affected by all repeater nodes that forwarded the data packet and that receive the NACK signal. The Alapuranen reference teaches in which the retransmitting step is affected by all repeater nodes that forwarded the data packet and that receive the NACK signal ([0022] and [0025]). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined

the references Szymanski and Alapuranen to incorporate in which the retransmitting step is effected by all repeater nodes that forwarded the data packet and that receive the NACK signal into the claimed invention. The motivation for in which the retransmitting step is effected by all repeater nodes that forwarded the data packet and that receive the NACK signal is to minimize latency ([0031] – Alapuranen reference).

With respect to claim 3, all of the limitations of claim 1 have been addressed. The Szymanski reference does not teach in which the retransmitting step is affected by at least one of the repeater nodes and the transmitter. The Alapuranen reference teaches in which the retransmitting step is affected by at least one of the repeater nodes and the transmitter ([0022] and [0025]). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined the references Szymanski and Alapuranen to incorporate in which the retransmitting step is effected by at least one of the repeater nodes and the transmitter into the claimed invention. The motivation for in which the retransmitting step is effected by at least one of the repeater nodes and the transmitter is to minimize latency ([0031] – Alapuranen reference).

With respect to claim 6, all of the limitations of claim 1 have been addressed. The Szymanski reference does not teach in which the step of retransmitting the data packet onto the network by the at least one repeater node includes the step of using multiple paths available from the repeater node to the receiver. The Alapuranen reference teaches in which the step of retransmitting the data packet onto the network by the at least one repeater node includes the step of using multiple paths available from the repeater node to the receiver ([0022 -0023]). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made

to have combined the references Szymanski and Alapuranen to incorporate in which the step of retransmitting the data packet onto the network by the at least one repeater node includes the step of using multiple paths available from the repeater node to the receiver into the claimed invention. The motivation for in which the step of retransmitting the data packet onto the network by the at least one repeater node includes the step of using multiple paths available from the repeater node to the receiver is to minimize latency ([0031] – Alapuranen reference).

With respect to claim 7, the Szymanski reference teaches the step of the receiver issuing an ACK signal in the event that the data packet is correctly received, the at least one repeater node forwarding the ACK signal to the transmitter (column 26, lines 34-40).

Claims 10 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diepstraten (U.S. Patent No. 5,339,316) in view of Alapuranen (U.S. Pub. No. 2004/0010736).

With respect to claims 10 and 15, the Diepstraten reference teaches a receiver module for receiving data packets originating from the transmitter (column 4, lines 3-14); a transmit module for forwarding the data packet to another node in the network (column 6, line 46 – column 7, line 20). The Diepstraten reference does not teach a pending packet buffer for storing copies of the forwarded data packets and a retransmission module for initiating retransmission over the network of data packets of the previously forwarded data packets for which NACK signals are received, responsive to the NACK signal being received by the repeater node, the retransmission module initiating retransmission of the data packets for which NACK signals are received by transmitting the stored copies of these data packets. The Alapuranen reference teaches a pending packet buffer for storing copies of the forwarded data packets ([0032]) and a retransmission

module for initiating retransmission over the network of data packets of the previously forwarded data packets for which NACK signals are received, responsive to the NACK signal being received by the repeater node, the retransmission module initiating retransmission of the data packets for which NACK signals are received by transmitting the stored copies of these data packets ([0030] and [0038]). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined the references Diepstraten and Alapuranen to incorporate a pending packet buffer for storing copies of the forwarded data packets and a retransmission module for initiating retransmission over the network of data packets of the previously forwarded data packets for which NACK signals are received, responsive to the NACK signal being received by the repeater node, the retransmission module initiating retransmission of the data packets for which NACK signals are received by transmitting the stored copies of these data packets into the claimed invention. The motivation for a pending packet buffer for storing copies of the forwarded data packets and a retransmission module for initiating retransmission over the network of data packets of the previously forwarded data packets for which NACK signals are received, responsive to the NACK signal being received by the repeater node, the retransmission module initiating retransmission of the data packets for which NACK signals are received by transmitting the stored copies of these data packets is to minimize latency ([0031] – Alapuranen reference).

With respect to claim 16, the Diepstraten reference teaches the step of retransmitting the data packet, by the repeater node, after first predetermined retrasmittal interval if no ACK or NACK signal is received in respect of a forwarded data packet (column 5, lines 41-60).

With respect to claim 17, the Diepstraten reference teaches including the transmitter retransmitting the data packet after a second predetermined retransmittal interval if no ACK signal is received, the second predetermined retransmittal interval being greater than the first predetermined retransmittal interval (column 5, lines 41-60).

Claims 18- 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diepstraten (U.S. Patent No. 5,339,316), Alapuranen (U.S. Pub. No. 2004/0010736) in view of Gu et al. (U.S. Patent No. 6,845,089).

With respect to claim 18, all of the limitations of claim 15 have been addressed. The Diepstraten reference does not teach in which the transmitter does not retransmit the original data packet in the event of the issuing of a NACK signal by the receiver. The Gu et al. reference teaches in which the transmitter does not retransmit the original data packet in the event of the issuing of a NACK signal by the receiver (column 1, lines 39-50). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined the references Diepstraten and Gu et al. to incorporate in which the transmitter does not retransmit the original data packet in the event of the issuing of a NACK signal by the receiver into the claimed invention. The motivation for in which the transmitter does not retransmit the original data packet in the event of the issuing of a NACK signal by the receiver is to appropriately control an initial system access power to minimize response time and increase transmission efficiency (column 2, lines 4-6 – Gu et al. reference).

With respect to claim 19, all of the limitations of claim 15 have been addressed. The Diepstraten reference does not teach in which the transmitter does not listen for NACK signals

relating to its own transmitted data packets. The Gu et al. reference teaches in which the transmitter does not listen for NACK signals relating to its own transmitted data packets (column 1, lines 39-50). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined the references Diepstraten and Gu et al. to incorporate in which the transmitter does not listen for NACK signals relating to its own transmitted data packets into the claimed invention. The motivation for in which the transmitter does not listen for NACK signals relating to its own transmitted data packets is to appropriately control an initial system access power to minimize response time and increase transmission efficiency (column 2, lines 4-6 – Gu et al. reference).

Claim 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diepstraten (U.S. Patent No. 5,339,316), Alapuranen (U.S. Pub. No. 2004/0010736) in view of Syzmanski (U.S. Patent No. 6,851,086).

With respect to claim 11, all of the limitations of claim 10 have been addressed. The Diepstraten reference does not teach including purge means for removing a stored data packet from the pending packet buffer when an ACK signal received in respect of that data packet. The Syzmanski reference teaches including purge means for removing a stored data packet from the pending packet buffer when an ACK signal received in respect of that data packet (column 3, lines 61 – 65). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined the references Diepstraten and Syzmanski to incorporate including purge means for removing a stored data packet from the pending packet buffer when an ACK signal received in respect of that data packet into the claimed invention. The

motivation for including purge means for removing a stored data packet from the pending packet buffer when an ACK signal received in respect of that data packet is to minimize latency.

With respect to claim 12, the Diepstraten reference does not teach in which the retransmission means includes means for retransmitting the data packet over all available paths. The Alapuranen reference teaches in which the retransmission means includes means for retransmitting the data packet over all available paths ([0022 -0023]). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined the references Diepstraten and Alapuranen to incorporate for retransmitting the data packet over all available paths into the claimed invention. The motivation for retransmitting the data packet over all available paths is to minimize latency ([0031] – Alapuranen reference).

With respect to claim 13, the Diepstraten reference teaches a repeater node adapted to forward ACK signals to the transmitter but not to forward NACK signals to the transmitter (column 4, lines 30-43).

With respect to claim 14, the Diepstraten reference teaches the step of retransmitting the data packet, by the repeater node, after first predetermined retransmittal interval if no ACK or NACK signal is received in respect of a forwarded data packet (column 5, lines 41-60).

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szymanski (U.S. Patent No. 6,851,086), Alapuranen (U.S. Pub. No. 2004/0010736) in view of Gu et al. (U.S. Patent No. 6,845,089).

With respect to claim 4, the Szymanski reference does not teach in which the transmitter does not retransmit the original data packet in the event of the issuing of a NACK signal by the receiver. The Gu et al. reference teaches in which the transmitter does not retransmit the original data packet in the event of the issuing of a NACK signal by the receiver (column 1, lines 39-50). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined the references Szymanski and Gu et al. to incorporate in which the transmitter does not retransmit the original data packet in the event of the issuing of a NACK signal by the receiver into the claimed invention. The motivation for in which the transmitter does not retransmit the original data packet in the event of the issuing of a NACK signal by the receiver is to appropriately control an initial system access power to minimize response time and increase transmission efficiency (column 2, lines 4-6 – Gu et al. reference).

With respect to claim 5, the Szymanski reference does not teach in which the transmitter does not listen for NACK signals relating to its own transmitted data packets. The Gu et al. reference teaches in which the transmitter does not listen for NACK signals relating to its own transmitted data packets (column 1, lines 39-50). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined the references Szymanski and Gu et al. to incorporate in which the transmitter does not listen for NACK signals relating to its own transmitted data packets into the claimed invention. The motivation for in which the transmitter does not listen for NACK signals relating to its own transmitted data packets is to appropriately control an initial system access power to minimize response time and increase transmission efficiency (column 2, lines 4-6 – Gu et al. reference).

Claim 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szymanski (U.S. Patent No. 6,851,086), Alapuranen (U.S. Pub. No. 2004/0010736) in view of Diepstraten (U.S. Patent No. 5,339,316).

With respect to claim 8, all of the limitations of claim 1 have been addressed. The Szymanski reference teaches the step of retransmitting the data packet, by the repeater node, after first predetermined retransmittal interval if no ACK or NACK signal is received in respect of a forwarded data packet. The Diepstraten reference teaches the step of retransmitting the data packet, by the repeater node, after first predetermined retransmittal interval if no ACK or NACK signal is received in respect of a forwarded data packet (column 5, lines 41-60). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined the references Szymanski and Diepstraten to incorporate the step of retransmitting the data packet, by the repeater node, after first predetermined retransmittal interval if no ACK or NACK signal is received in respect of a forwarded data packet into the claimed invention. The motivation for the step of retransmitting the data packet, by the repeater node, after first predetermined retransmittal interval if no ACK or NACK signal is received in respect of a forwarded data packet is for an efficient method for dealing with lost packets resulting from medium access collisions and interference of other sources (column 1, lines 48-51).

With respect to claim 9, all of the limitations of claim 8 have been addressed. The Szymanski reference does not teach including the transmitter retransmitting the data packet after a second predetermined retransmittal interval if no ACK signal is received, the second predetermined retransmittal interval being greater than the first predetermined retransmittal interval. The Diepstraten reference teaches including the transmitter retransmitting the data

packet after a second predetermined retransmittal interval if no ACK signal is received, the second predetermined retransmittal interval being greater than the first predetermined retransmittal interval (column 5, lines 41-60). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined the references Szymanski and Diepstraten to incorporate including the transmitter retransmitting the data packet after a second predetermined retransmittal interval if no ACK signal is received, the second predetermined retransmittal interval being greater than the first predetermined retransmittal interval into the claimed invention. The motivation for including the transmitter retransmitting the data packet after a second predetermined retransmittal interval if no ACK signal is received, the second predetermined retransmittal interval being greater than the first predetermined retransmittal interval is for an efficient method for dealing with lost packets resulting from medium access collisions and interference of other sources (column 1, lines 48-51).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Enam Ahmed whose telephone number is 571-270-1729. The examiner can normally be reached on Mon-Fri from 8:30 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques, can be reached on 571-272-6962.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

Art Unit: 2112

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EA

7/14/08

/Mujtaba K Chaudry/

Primary Examiner, Art Unit 2112